

REMARKS

Applicant wishes to thank the Examiner for the courtesies and thoughtful treatment accorded Applicant's undersigned representative during the June 28, 2005 telephonic interview. This Response has been prepared in accordance with that interview and to make the issues discussed therein formally of record in this application.

In more detail, in the Office Action, Claims 1, 9, 12, 19, 29, 32 and 34 were rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by U.S. Patent No. 6,321,270 (Crawley), and Claims 2 to 8, 10, 11, 20 to 25, 30, 31, 33 and 35 were rejected under 35 U.S.C. § 103(a) over Crawley in view of U.S. Patent No. 6,366,913 (Fitler). The rejections are traversed and the Examiner is requested to carefully review the cited art and the claimed invention in light of the following comments and to reconsider and withdraw the rejections.

The present invention provides the ability for administrators to track only specific types of changes made to a directory in a directory server. Conventionally, when ever any type of change is made to a directory in a directory server, an administrator is notified of the change. Thus, administrators receive information for *all* changes made to the directory, even if they may not be interested in knowing about certain types of changes. As a result, administrators are inundated with unwanted change notices and they have to sort through all of the change notices to view the ones that they are actually interested in. Additionally, network traffic is significantly increased due to the change messages being transmitted for all types of changes; especially where multiple administrators may be part of the network and the messages are transmitted to all of the administrators.

The present invention provides a more efficient system for administrators to track changes made to a directory server by limiting the messages an administrator receives to only those that the administrator is interested in receiving. For example, administrator A may only want to be notified when a new entry is added to the directory in the directory server and may not want to be notified of any other types of changes. On the other hand, administrator B may only want to be notified when an existing entry in the directory of the directory server is deleted and may not want to be notified of any other types of changes. To this end, in the present invention, plural multicast groups are established, each corresponding to a specific type of change category for changes that can be made to the directory of the directory server. For instance, one multicast group is established for ADD changes, where ADD is the change category. Another separate multicast group is established for DELETE changes, where DELETE is the change category. Yet another separate multicast group is established for MODIFY changes, where MODIFY is the change category. In order to receive only change information corresponding to a specific type of change category, each administrator becomes a member of the respective multicast group corresponding to the change category of the type of changes they want to receive information for. For example, since the above-mentioned administrator A only wants to be notified when a new entry is added to the directory, administrator A becomes a member of the ADD multicast group. Thus, administrator A will only receive change information when an entry is added to the directory of the directory server and will not receive change information for any other types of changes. On the other hand, since the above-mentioned administrator B only wants to be notified when an entry is deleted from the directory, administrator B becomes a member of the DELETE multicast group. Thus, administrator

B will only receive change information when an entry is deleted from the directory of the directory server and will not receive change information for any other types of changes. Of course, if desired, either of the above administrators could become a member of more than one multicast group so that they can receive change information for a plurality of types of changes. Finally, when a change is made to the directory in the directory server, depending on the category type of the change made, change information in the form of a packet is generated and sent to each member of the multicast group corresponding to the type of change.

Thus, as can readily be seen from the foregoing, with the present invention, administrators can choose which types of change information they want to be notified of by becoming a member of the multicast group corresponding to the change category. This is quite unlike the conventional systems in which all administrators receive notification of all changes, thereby clogging the network with unnecessary transmissions and providing each administrator with information that they may not want to receive.

Referring specifically to the claims, Claim 1 is a method for multicasting changes made in a directory server which contains information within a directory and makes a change to the information in the directory in accordance with a directory change operation, comprising the steps of establishing plural multicast groups, each multicast group corresponding to a respective change category for a type of change made to the directory in the directory server, and submitting change information for multicasting responsive to a change being made to the directory in the directory server, the change information being submitted to each member which belongs to a selected one of the plural

multicast groups corresponding to the change category of the type of change made to the directory in the directory server.

Independent Claims 32 and 34 are method and computer-executable process steps claims, respectively, that are along the lines of Claim 1, but which do not require that the change information to be submitted via multicasting.

Independent Claim 9 is a method for obtaining directory server change information from a directory server which contains information within a directory and which makes a change to the information in the directory in accordance with a directory change operation, comprising the steps of registering as a member of at least one of a plurality of multicast groups, each of the plurality of multicast groups corresponding to a respective change category for a type of change made to the directory in the directory server, and receiving from the directory server, change information submitted to each member which belongs to the multicast group corresponding to the change category of the type of change made to the directory in the directory server.

Independent Claim 29 is a computer-executable process steps claim that substantially corresponds to Claim 9.

Independent Claim 12 is an apparatus for multicasting changes made in a directory server which contains information within a directory and which makes a change to the information in the directory in accordance with a directory change operation, wherein plural multicast groups are established such that each multicast group corresponds to a respective change category for a type of change made to the directory in the directory server, comprising a processor for executing executable process steps, and a memory medium storing executable process steps, wherein the executable process steps comprise

(a) generating change information responsive to a change being made to the directory in the directory server, wherein the change information corresponds to the type of change made to the directory, and (b) submitting the change information to each member which belongs to a selected one of the plural multicast groups corresponding to the change category of the type of change made to the directory in the directory server.

Independent Claim 19 is a computer-executable process steps claim that substantially corresponds to Claim 12.

The applied art, alone or in any permissible combination, is not seen to disclose or to suggest the features of the present invention. More particularly, the applied art is not seen to disclose or to suggest at least the feature of establishing plural groups/multicast groups each corresponding to a respective type of change category of a type of change made to a directory server, and when a change is made to a directory of the directory server, submitting change information to each member which belongs to one of the plural groups/multicast groups corresponding to the change category of the type of change made to the directory.

Along the same lines, the applied art is not seen to disclose or to suggest registering as a member of at least one of a plurality of multicast groups each of which corresponds to a respective change category for a type of change made to a directory in a directory server, and the registered member receiving change information submitted to each member which belongs to the multicast group corresponding to the change category of the type of change made to the directory in the directory server.

Crawley merely discloses that control information is multicast by a control node to other nodes in a communication path. One of the nodes in the network is selected

as a control point and stores a database that includes a network topology, which includes control information. When the control information is established in the control point node, the control point node multicasts the control information to all of the other nodes in the network topology. Thus, when a new node is added to the network topology, or when a node is deleted from the network topology, the control information changes, the control point node updates the network topology, and then multicasts new (updated) control information to all of the other nodes in the network. This feature of transmitting the control information to all nodes in the network is a requirement of Crawley, otherwise, at least one node in the network would not know the new topology and a communication error would occur. Thus, while Crawley may send out change information whenever a change is made to the network topology, there simply is no correlation whatsoever in Crawley between the types of changes made to the topology and which node(s) receive the change information based on the type of change made. This is readily apparent from Crawley's failure to disclose anything with regard to the nodes in the network topology becoming a member of a particular group corresponding to a change category of a type of change made to the network topology so that the node will only receive change information corresponding to the specific type of change made to the topology.

In view of the foregoing, it can clearly be seen that Crawley fails to disclose or to suggest the foregoing features of independent Claims 1, 9, 12, 19, 29, 32 and 34, and therefore, these claims are not anticipated by Crawley.

As for the remaining claims, Fitler is not seen to add anything to overcome the foregoing deficiencies of Crawley. In this regard, Fitler is merely seen to disclose that different groups corresponding to different departments within an enterprise are established

to receive multicast messages, where the groups are based on such items as location, department, etc. That is, when a multicast message is intended to be transmitted to personnel that are part of the Engineering department, a multicast message is transmitted to members of Engineering. Thus, while the receivers of multicast messages may be determined by member a group, the groups are not established, nor do they correspond to, a change category corresponding to a type of change made to a directory of a directory server.

A combination of Crawley and Fitler also would not have resulted in the present invention. In this regard, at best, combining Fitler with Crawley may have provided for the formation of groups of nodes in the network topology of Crawley to receive messages based on membership in a particular department. However, there is nothing in such a combination that would have disclosed or suggested forming groups based on a change category of a type of change made to the network topology so that only particular nodes would receive the messages corresponding to the type of change. Again, since Crawley requires that all nodes receive the changed control information, this prohibits the ability to form separate groups corresponding to different change categories of types of changes. Thus, any permissible combination of Crawley and Fitler would not have resulted in the present invention.

In view of the foregoing deficiencies of the applied art, all of Claims 1 to 12, 19 to 25 and 29 to 35 are believed to be allowable.

No other matters having been raised, the entire application is believed to be in condition for allowance and such action is respectfully requested at the Examiner's earliest convenience.

Applicant's undersigned attorney may be reached in our Costa Mesa,
California office at (714) 540-8700. All correspondence should continue to be directed to
our below-listed address.

Respectfully submitted,



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